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10                    3.     DNA gene according to claim 2,  
characterized in that it comprises, in addition, a  
mutation consisting of a substitution of proline 106 by  
serine.

4. DNA gene according to claim 2,  
15 characterized in that it comprises, in addition, a  
mutation consisting of a substitution of glycine 101 by  
alanine.

5. DNA gene according to <sup>claim 1</sup> ~~one of claims 1 to~~ 4, characterized in that it is of bacterial origin.

20 6. DNA gene according to claim 5,  
characterized in that it originates from a bacterium of  
the genus *Salmonella typhimurium*.

7. DNA gene according to <sup>claim 1</sup> ~~one of claims 1 to~~ 4, characterized in that it is of plant origin.

25                    8.    DNA gene according to claim 7,  
characterized in that it is of maize origin.

9. Mutated EPSPS protein, characterized in that it comprises at least one substitution of

da

threonine 102 by isoleucine.

10. Chimeric gene comprising a coding sequence as well as regulatory elements at positions 5' and 3' which are heterologous and capable of functioning in plants, characterized in that it comprises a coding sequence at least one sequence according to <sup>claim 1</sup> ~~one of claims 1 to 8~~.

11. Chimeric gene according to claim 9, characterized in that it comprises a plant virus promoter.

12. Chimeric gene according to claim 10, characterized in that it comprises a plant promoter (e.g.  $\alpha$ -tubulin, histone, introns, actin, etc.).

13. Vector for the transformation of plants, characterized in that it comprises at least one gene according to <sup>claim 10</sup> ~~one of claims 10 to 12~~.

14. Plant cell, characterized in that it comprises at least one gene according to <sup>claim 10</sup> ~~one of claims 10 to 12~~.

15. Plant, characterized in that it is obtained by regeneration from a cell according to claim 14.

16. Method for the production of plants with improved tolerance to a herbicide having EPSP synthase as its target, characterized in that plant cells or protoplasts are transformed with a gene according to <sup>claim 1</sup> ~~one of claims 1 to 8~~, and in that the transformed cells are subjected to a regeneration.

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18. Method according to claim 17,  
characterized in that glyphosate or a glyphosate  
precursor is applied.

precursor is

ADD A'

ADD B'

ADD C'

add

C

[illegible]